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MEMORANDUM

To: **Project Selection Committee**

From: CMAP Staff

Date: June 6, 2018

Re: Proposed Changes for the FFY 2020-24 CMAQ and FFY 2020-2022 TAP-L Call for Projects

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The next CMAQ and TAP-L call for projects is scheduled to open in January 2019 for the Federal Fiscal Years 2020 through 2024 and 2020-2022 respectively. In preparation for the call, CMAP staff has been reviewing evaluation techniques and scoring procedures. As background, the CMAQ scoring process first considers the cost-effectiveness of air emissions reductions for the project, then secondarily considers a set of transportation impact criteria and regional priority criteria drawn from GO TO 2040. Cost-effectiveness is weighted at 60 percent of the project score, transportation impact criteria at 30 percent, and regional priorities at 10 percent. With TAP-L the scoring is handled by considering the completion of the Regional Greenways and Trails Plan, the population and employment density around the project, the safety and attractiveness rating of the project, and project readiness.

This memo presents several modifications for discussion by the Project Selection Committee that staff believes will improve the scoring process. Our goal is to have the evaluation and scoring finalized for the next call by the August 16th Project Selection Committee (PSC) meeting.

Changes to CMAQ Air Quality Cost-Effectiveness

The air quality cost effectiveness score currently is based on volatile organic compound (VOC) emissions for all project types except the Direct Emissions Reduction type, which is based on emissions of particulate matter below 2.5 microns ($PM_{2.5}$). Staff intends to include nitrogen oxide (NOx) emissions in the air quality cost effectiveness score.

NOx is one of the ozone precursor emissions and mobile sources account for the majority of NOx production. According to Illinois Environmental Protection Agency's 2016 Illinois Air Quality Report, 78% of state NOx emissions are from mobile sources. Additionally, the CMAP region is required to set targets for NOx as part of the federal performance measure rules. To

include it in the decision making process for the selection of projects would draw a direct connection to the performance measure.

Staff is already measuring the NOx emission reductions for all projects and reporting them to FHWA's CMAQ Public Access System for the purpose of tracking the performance target. Incorporating the NOx emissions into the cost effectiveness score would be a relatively simple process. The cost effectiveness allocates 60 points to the project scoring (90 points for Other project category). The suggested change would split the points between VOC and NOx for all the projects except for the direct emission reduction projects which would split them between PM2.5 and NOx.

Changes to CMAQ Transportation Impact Criteria

In the last funding round, highway oriented projects had transportation impact criteria that considered reliability, safety, location on the Congestion Management Process (CMP) network, and benefit to transit. Staff is proposing to change some of the criteria and their weights. The CMP network would be dropped along with Transit Benefit while Corridor/Transit Improvement would be added. All three criteria would each be weighted at 10 points apiece. See the table below for current criteria with scoring weights and new or revised criteria and scoring weights.

	Criteria and Weights			
Current Highway TIC	Reliability **15**	Safety **5**	On CMP Network **5**	Transit Benefit **5**
Proposed Highway TIC	Reliability **10**	Safety Need/Improvement **10**	Corridor/Transit Improvement **10**	

<u>On the CMP Network</u>
The CMP network is the region's roadways that are critical to its operation and tend to include the highest traffic volume roadways in the region. Because the traffic volumes are a major determinant in the emissions benefit analysis, staff feels this may give overly high weight to high volume roadways.

<u>Safety</u>
While safety would continue to be a criteria for evaluation, the method for evaluating the safety criteria would change. 5 points had been given to projects if the project location was reported as an IDOT 5 percent location and the project scope included safety improvements. The proposed change will call for a two-part evaluation which will determine safety need at the project location and safety improvement score of the proposed project.

Safety Need (5 points)

The first part would be scored based on IDOT's Potential for Safety Improvement (PSI) score. The PSI score is based on the expected crash experience on a segment or at an intersection and is the difference between the corrected crash frequency and the expected crash experience for a given traffic volume. See the Highway Safety Manual Case Study 4: Development of Safety Performance Functions for Network Screening in Illinois for more information on how the PSI was developed. The case study was the result of work by the Illinois Center for Transportation, Illinois Department of Transportation and University of Illinois at Urbana-Champaign.

In order for a proposed project to be considered, it must cross or be located on a segment or intersection with positive PSIs scores. For a single intersection project, the score will include the intersection score and the highest entering segment score. It should be noted the PSI score was used to generate the IDOT 5 percent locations.

The project safety need score will be the sum of the two highest PSI values along the project location. This will include both segment and intersection locations. The scores will be indexed 0-5 based upon the assigned PSI score.

Safety Improvement (5 points)
Projects will also be evaluated for the crash reduction factor (CRF) assigned to the countermeasures that will be implemented as part of the proposed project. Staff will review project details to determine the CRF for countermeasures included as part of the project.

In order to get improvement points, the counter measure must address the safety issues experienced at the project location. If the proposed countermeasure reduce all crashes the full CRF will be applied. When the countermeasure(s) only addresses a specific crash type, staff will determine the proportion of the CRF that will be applied. For example, if the countermeasure addresses only half of the crashes at the project location the CRF will be divided by half which could still result in a high score.

CRF points will be assigned as follows:

Total CRF	Score
Above 50%	5 points
>35% – 50%	4 points
>25% – 35%	3 points
>15% – 25%	2 points
>5% – 15 %	1 point
0% – 5%	0 points

Corridor/Transit Improvement
Following the last call for projects, members of the committee indicated a desire to include corridor level analysis of traffic flow improvement project applications. Part of the analysis currently conducted to evaluate projects is a microsimulation based on the proposed improvements. Doing this at a corridor level would not be practical: the data requirements for project sponsors and the time it would take to complete make a full blown analysis infeasible at

this time. In place of this analysis, a transportation impact criterion could be added that would give additional points to highway projects that are corridor level improvements or are part of a corridor improvement.

Points would also be given to projects that include transit improvements as part of the overall project scope. This could include but is not limited to transit signal priority, cue jumps, dedicated bus lanes, fixed station/stop improvements, and pedestrian access to transit.

The proposed criteria would require some evidence of the corridor improvement. Sponsors would need to provide a corridor study, TIP evidence of other projects that make up the corridor or the corridor project is in the TIP. If a project is a corridor improvement, part of a corridor improvement or making a transit improvement, then it will receive all 10 points.

Changes to CMAQ Regional Priority Criteria

The regional priority criteria assess the extent to which a project incorporates or furthers key recommendations of the regional plan. Past cycles have looked to GO TO 2040 and focused on major capital projects, parking management and pricing, and transit supportive land use. Each regional priority is worth a maximum of 10 points.

While ON TO 2050 keeps many of the underlying themes, there are some new focus areas. One of the overarching principles of the plan is inclusive growth. With this theme in mind, benefits to disadvantaged populations would be included in the regional priority areas, replacing the emphasis on parking management and pricing. That is, other things being equal, a project that serves more residents of disadvantaged communities would be ranked higher than one serving fewer residents of disadvantaged communities. Disadvantaged communities would be as defined in CMAP's Inclusive Growth strategy paper.

Current Regional Priorities	1. Project is a component of a GO TO 2040 major capital project. 2. Project is for parking management, including parking pricing 3. The zoning and urban design requirements in the area around a proposed transit project are supportive of transit.
Proposed Regional Priorities	1. Project is a component of an ON TO 2050 major capital project. 2. The zoning and urban design requirements in the area around a proposed transit project are supportive of transit. 3. Project benefits population from an economically disconnected area.

To score projects, CMAP staff would assess the share of auto traffic and transit users on roadway segments and transit lines that are from disadvantaged communities. Proposed scoring is as follows:

Percent of users from disadvantaged communities	Score
0%-10%	0 points
11%-20%	2
21%-30%	4
31%-40%	6
41%-50%	8
51% or more	10 points (maximum)

Changes to TAP-L Scoring

Inclusive growth is also a critical consideration for the TAP-L program and increasing the likelihood of bicycle projects benefiting disadvantaged areas. Rather than the percentage of users on the facility, TAP projects would be scored on a 0-10 scale using zone-level demographic information, since bicyclists tend to travel shorter distances. For TAP-L projects this will result in a change to the points for the different criteria. Completion of the Regional Greenways and Trail Plan (RGTP) is proposed to still be on a 0-30 point scale but population and employment density and the safety and attractiveness rating criteria would be reduced to a maximum of 25 points.

Current TAP-L Scoring Criteria	1. Completion of RGTP (30 points) 2. Population and Employment Density (30 points) 3. Safety and Attractiveness Rating (30 points) 4. Project Readiness a. No ROW acquisition or easements to obtain (5 points) b. Phase II engineering complete (5 points)
Proposed TAP-L Scoring Criteria	1. Completion of RGTP (30 points) 2. Population and Employment Density (25 points) 3. Safety and Attractiveness Rating (25 points) 4. Benefits to Economically Disconnected Communities (10 points) 5. Project Readiness a. No ROW acquisition or easements to obtain (5 points) b. Phase II engineering complete (5 points)

Conclusion

Following the discussion with the Project Selection Committee and RTOC, staff will adjust criteria accordingly and then will draft the application materials for the January 2019 call for projects.

Action requested: Discussion